AMENDMENTS TO THE SPECIFICATION

Please add the following section heading before the title on page 1 of the specification, as follows, where language being added is identified with underlining ("___") and language being deleted is identified with strikethrough ("——"), as is applicable:

TITLE OF THE INVENTION

METHODS AND APPARATUS FOR STORING HIERARCHICAL DOCUMENTS IN A RELATIONAL DATABASE

Please add the following section headings and text before the paragraph starting on page 1, line 4 of the specification, where language being added is identified with underlining ("___") and language being deleted is identified with strikethrough ("—"), as is applicable:

CROSS-REFERENCE TO RELATED APPLICATIONS

Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable.

THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT

Not applicable.

INCORPORATION-BY-REFERENCE TO A JOINT RESEARCH AGREEMENT

Not applicable.

INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC

Not applicable.

TECHNICAL FIELD

This invention relates to storage and retrieval of hierarchical documents such as extensible mark up language (XML) documents, in a relational database.

Please add the following section heading before the paragraph starting on page 1, line 7 of the specification and amend the paragraph as follows, where language being added is identified with underlining ("___") and language being deleted is identified with strikethrough ("---"), as is applicable:

BACKGROUND

XML is rapidly gaining popularity as a means of classifying, exchanging and storing information and of representing it in a standardised syntactical form. The XML syntax specification is available from the site http://www.w3.org/TR/REC-xml in a document entitled "Extensible Markup Language (XML) 1.0 Second Edition." An XML document is essentially a tree structure, which conforms to a set of syntactical (or structural) rules. A parser can determine whether a document conforms to these rules. The XML document may be manifested in many ways[[,]]. For example it could be a text document stored as a file on a hard disk or it could be an in memory representation stored as bytes for processing by a computer program. An attraction of XML is its extensibility, which simply means that it is possible to specify additional syntactic rules to which certain types of XML document must conform. These additional rules are predetermined syntactical constructions, which assign meaning to certain of the textual constructs. Thus, in common with other structured languages such as computer programming languages like CC++ or Pascal, the documents can be parsed to isolate the elements forming the document and then processed as desired.

Please add the following section heading before the paragraph starting on page 3, line 31 of the specification and amend the paragraph as follows, where language being added is identified with underlining ("___") and language being deleted is identified with strikethrough ("---"), as is applicable:

SUMMARY

According to a first aspect of the invention therefore, there is provided a method of storing a hierarchical document in a relational database comprising parsing a hierarchical document, associating a unique identifier with respective parsed nodes of the document which includes information about the hierarchical position of the node in the document, and storing the node with its identifier in a table of a relational database.

Please add the following section heading before the paragraph starting on page 6, line 26 of the specification, where language being added is identified with underlining ("___") and language being deleted is identified with strikethrough ("---"), as is applicable:

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the invention will now be described by way of example with reference to the drawing which is a schematic block diagram showing the interaction between an XML document, a SAX parser and an equivalent tabular representation of the document stored in a relational database.

Please add the following section heading before the paragraph starting on page 6, line 31 of the, where language being added is identified with underlining ("___") and language being deleted is identified with strikethrough ("——"), as is applicable:

DETAILED DESCRIPTION

As noted above, the storage of an XML document in a relational database is difficult primarily because XML documents are tree structures whereas relational databases provide the ability to store data a plurality of cross-referenced tables. This means that tree structures do not readily fit into the relational database construct.